IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

NUANCE COMMUNICATIONS, INC., a Delaware corporation, and PHONETIC SYSTEMS LTD., an Israeli corporation,
 	
                    Plaintiffs,
 	
vs.
 	
TELLME NETWORKS, INC., a Delaware corporation,
 	
                    Defendant.
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	) Civil Action No. 06-105-SLR

DECLARATION OF DOUGLAS SHARP IN SUPPORT OF NUANCE COMMUNICATIONS, INC. AND PHONETIC SYSTEMS LTD.'S OPPOSITION TO TELLME NETWORKS, INC.'S MOTION TO STAY PENDING ARBITRATION

Frederick L. Cottrell (# 2555)
cottrell@rlf.com
Gregory E. Stuhlman (#4765)
stuhlman@rlf.com
RICHARDS, LAYTON & FINGER, P.A.
One Rodney Square
P.O. Box 551
Wilmington, Delaware 19899
(302) 651-7700

Attorneys for Plaintiffs Nuance Communications, Inc. and Phonetic Systems Ltd.

OF COUNSEL:
Mark A. Samuels (S.B. #107026)
Mark C. Scarsi (S.B. #183926)
Jeffrey A. Fehervari (S.B. #181124)
O'MELVENY & MYERS LLP
400 South Hope Street
Los Angeles, California 90071-2899
Telephone: (213) 430-6000
Facsimile: (213) 430-6407

DECLARATION OF DOUGLAS SHARP

I, Douglas Sharp, do hereby declare as follows:

1.   I am currently employed as Vice President, Network ASR Engineering of Nuance Communications, Inc. ("Nuance"), (formerly named ScanSoft, Inc.). I was previously employed by Nuance Communications, USA, Inc. ("NCUSA"), (then known as Nuance Communications, Inc.) until NCUSA was acquired by Nuance. I have personal knowledge of the facts contained within this declaration. If called to testify, I could and would testify competently thereto.

2.   I have 19 years' experience in research regarding speech recognition algorithms, development of speech recognition software and management of these two. During the years 1987-2006 I have worked as a researcher into speech algorithms, a developer of speech recognition software, an architect of speech recognition systems, a director of development of a family of speech software products, and vice president and member of the executive team in charge of engineering overall for NCUSA.

3.   Generally, ASR software is a software component that is capable of receiving digital speech signals and determining probabilities that a particular entry (or entries) in a given vocabulary (or "grammar") matches the digital speech signals. The role of ASR software is essentially to receive these digital signals and, using sophisticated software algorithms, calculate the most likely match in a given vocabulary or grammar, along with a measure of confidence that this match is correct.

4.   ASR software is included in a wide variety of different systems, including automotive applications for hands-free control of vehicle functions, automated dictation applications, and automated customer service applications, just to name a few. In each instance, however, the ASR software is but one component of a much larger overall system.

5.   For instance, to implement a system for automated control of vehicle functions, a developer would need to develop or integrate a number of additional hardware and software components to create the overall system. Such additional components might include, for example: a microphone to capture a user's speech, an analog-to-digital converter to translate that speech to digital form, software to transmit the digital speech to the ASR component and software to receive the output results from the ASR component. The system would also require other hardware and software to implement the user's commands, such as to turn on the lights, or provide a command to a navigation system.

6.   In essence, an ASR software component is simply a "black box" that an application uses to translate digital audio signals into probabilities that a particular word, phrase, or salient segment of a longer phrase, was spoken by the user, again with some confidence level. In the automotive system just described, the automotive application uses the ASR component to translate digital audio signals into commands that the automotive application can understand.

7.   While certain of Tellme's directory assistance and/or call center application systems use NCUSA's ASR Software as one component of their overall system, Tellme's systems also incorporate a significant number of hardware and software components beyond NCUSA's ASR Software. For example, based on my experience and understanding of speech-enabled systems, I believe that Tellme's automated directory assistance systems likely include all or many of the following components, none of which have been supplied to Tellme by NCUSA:

- application software that decides what greeting to play, or what response to solicit, from a caller that is seeking a desired listing,

- software to receive output from the ASR, which output likely includes one or more possible recognized utterances and probabilities associated with each of them,

- software to assess whether the probabilities received from the ASR are sufficiently high to indicate that the user's speech was reliably recognized,

- software and hardware to forward the user's recorded speech to a human operator and hardware to play back (or "whisper") the audio for the operator if the user's speech was not reliably recognized,

- a system through which the operator can then input the listing or city identified in the user's speech, including hardware or software to connect the human operator to the caller if necessary, and

- a database consisting of all of the listings in a given geographical area, and software for searching that database and retrieving desired listings based on the results from the ASR or the operator's input.

I declare under penalty of perjury of the laws of the United States of America that the foregoing is true and correct.

Executed on April 27, 2006 at Menlo Park , California.

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Douglas Sharp

UNITED STATES DISTRICT COURT
DISTRICT OF DELAWARE

CERTIFICATE OF SERVICE

I hereby certify that on April 28, 2006, I electronically filed the foregoing with

the Clerk of Court using CM/ECF which will send notification of such filing(s) to the

following and which has also been served as noted:

VIA HAND DELIVERY

Jack B. Blumenfeld
Rodger D. Smith, II
Morris, Nichols, Arsht & Tunnell LLP
1201 N. Market Street
Wilmington, DE   19899-1347

I hereby certify that on April 28, 2006, the foregoing document was sent to

the following non-registered participants in the manner indicated:

VIA U.S. MAIL

Morgan Chu, Esquire
Jonathan S. Kagan
Iian Jablon
Irell & Manella LLP
1800 Avenue of the Stars
Los Angeles, CA   90067

_____
Gregory E. Stuhlman (#4765)
stuhlman@rlf.com